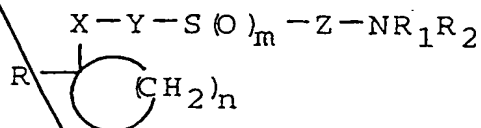


Claims

1) Compounds of formula I

5



I

10 and pharmaceutically acceptable salts thereof in which

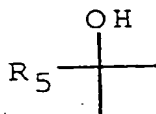
m is 0, 1 or 2;

n is 2, 3, 4 or 5;

15

X is carbonyl or a group of formula II

20



II

in which R₅ is H or an alkyl group containing 1 to 4 carbon atoms;

25

Y is an alkylene chain containing 1 or 2 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms;

Z is an alkylene chain containing 2 to 5 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms;

30

R is phenyl optionally substituted by one or more halo substituents (for example fluoro, chloro, bromo or iodo) or R is naphthyl; and

35

R₁ and R₂, which are the same or different, are H, a straight or branched chain alkyl group containing 1 to 4 carbon atoms, an arylalkyl group in which the

alkyl group contains 1 to 3 carbon atoms, provided that when R₁ is benzyl, R₂ is H or methyl;

for use in the treatment of drug misuse or other addictive disorders.

135 A1/5
2) The use of compounds of formula I as claimed in claim 1 in which m is 0, 1 or 2 and n is 3 or 4.

3) The use of compounds of formula I as claimed in any preceding claim in which X is carbonyl or a group of formula II in which R₅ is H.

10 4) The use of compounds of formula I as claimed in any preceding claim in which Y is methylene.

15 5) The use of compounds of formula I as claimed in any preceding claim in which Z is an alkylene chain containing 2, 3 or 4 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms.

20 6) The use of compounds of formula I as claimed in any preceding claim in which Z is an alkylene chain containing 2, 3 or 4 carbon atoms optionally substituted by one or more methyl groups.

7) The use of compounds of formula I as claimed in any preceding claim in which R is phenyl substituted by one or two chloro substituents or R is naphthyl.

25 8) The use of compounds of formula I as claimed in any preceding claim in which R is 3-chlorophenyl, 3,4-dichlorophenyl or 2-naphthyl.

30 9) The use of compounds of formula I as claimed in any preceding claim in which R₁ is an alkyl group containing 1 to 3 carbon atoms or is benzyl, and R₂ is an alkyl group containing 1 to 3 carbon atoms.

10) The use of compounds of formula I as claimed in any preceding claim in which R₁ and R₂ are both methyl or ethyl or R₁ is benzyl and R₂ is methyl.

35 11) The use of compounds of formula III

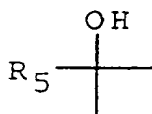
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and pharmaceutically acceptable salts thereof in which

5 m is 0, 1 or 2;

n is 2, 3, 4 or 5;

10 X is carbonyl or a group of formula II



II

15 in which R₅ is H or an alkyl group containing 1 to 4 carbon atoms;

20 Y is an alkylene chain containing 1 or 2 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms;

Z is an alkylene chain containing 2 to 5 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms;

25 R₁ and R₂, which are the same or different, are H, a straight or branched chain alkyl group containing 1 to 4 carbon atoms, an arylalkyl group in which the alkyl group contains 1 to 3 carbon atoms, provided that when R₁ is benzyl, R₂ is H or methyl;

and R₃ is halo, and R₄ is H or halo, or R₃ and R₄ together with the carbon atoms to which they are attached form a fused benzene ring.

30 12) The use of compounds of formula III as claimed in claim 11 in which R₃ is chloro and R₄ is H, R₃ and R₄ are both chloro or R₃ and R₄ together with the carbon atoms to which they are attached form a fused benzene ring.

35 13) The use of compounds of formula III as claimed in any preceding claim in which R₃ is chloro situated in the 3-substitution position on the phenyl ring and R₄ is

A₁ cont.

H, R₃ and R₄ are both chloro and are situated in the 3- and 4-substitution positions on the phenyl ring respectively, or R₃ and R₄ together with the phenyl ring to which they are attached form a 2-naphthyl group.

5 14) The use of compounds of formula I as claimed in claim 1 which are:

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(dimethylamino)ethylthio]ethanone;

10 1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(dimethylamino)ethylsulphinyl]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(dimethylamino)ethylsulphonyl]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(diethylamino)ethylthio]ethanone;

15 2-[2-(N-benzyl-N-methylamino)ethylthio]-1-[1-(3,4-dichlorophenyl)cyclobutyl]-ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(dimethylamino)ethylthio]ethanol;

20 1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)propylthio]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)propylsulphonyl]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)propylthio]ethanol;

25 1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)-2-methylpropylthio]-ethanone;

2-[2-(dimethylamino)ethylthio]-1-[1-(2-naphthyl)cyclobutyl]ethanone;

30 1-[1-(3-chlorophenyl)cyclobutyl]-2-[3-(dimethylamino)propylthio]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[4-(dimethylamino)butylthio]ethanone;

35 1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dipropylamino)propylthio]ethanone;

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1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)-2-methylpropylthio]ethanol;

1-[1-(3,4-dichlorophenyl)cyclopentyl]-2-[3-(dimethylamino)propylthio]ethanone;

5 and pharmaceutically acceptable salts thereof in the form of individual enantiomers, racemates, or other mixtures of enantiomers.

15) Pharmaceutical compositions comprising a therapeutically effective amount of a compound of formula I as claimed in claim 1, together with a pharmaceutically acceptable diluent or carrier.

16) A method of treating drug misuse or other addictive disorders which comprises the administration of a therapeutically effective amount of a compound of formula I as defined in any one of claims 1 to 14 to a patient in need thereof.

17) A method of reducing cravings to food or an addictive substance in a mammal comprising administering an effective amount of a compound of formula I as defined in any one of claims 1 to 14 to a mammal in need thereof.

18) A method as claimed in claim 17 wherein the addictive substance is cocaine, amphetamine, nicotine, opiates, tobacco, alcohol or ecstasy.

19) The use of a compound of formula I as claimed in any of claims 1 to 14 in the manufacture of a medicament for use in the treatment of drug misuse or other addictive disorders